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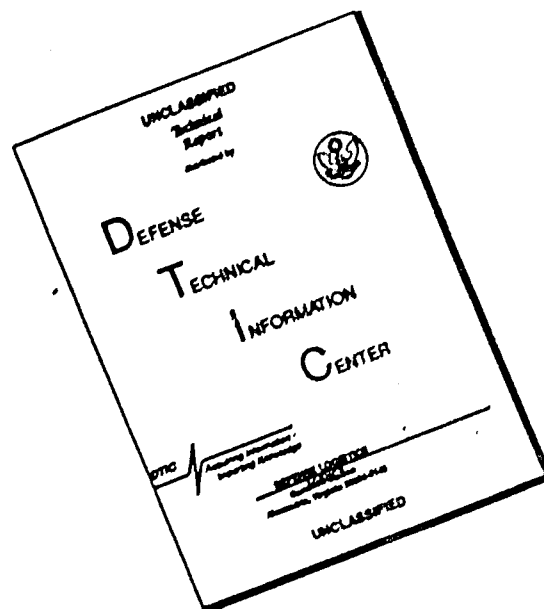
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AGDA (M) (18 Aug 69)

FOR OT UT 692175


10 September 1969

SUBJECT: Operational Report - Lessons Learned, Headquarters, 70th Engineer Battalion, Period Ending 30 April 1969

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2. Information contained in this report is provided to insure appropriate benefits in the future from lessons learned during current operations and may be adapted for use in developing training material.

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ROBERT E. LYNCH
Colonel, AGC
Acting The Adjutant General

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DEPARTMENT OF THE ARMY
HEADQUARTERS, 70TH ENGINEER BATTALION (COMBAT)(ARMY)
APO 96297

30 APRIL 1969

SUBJECT: Operational Report of 70th Engineer Battalion (C)(A) for period
Ending 30 April 1969, RGS CSFOR-65 (R1)

Commanding Officer
35th Engineer Group (Const)
APO 96312

Commanding General
18th Engineer Brigade
APO 96377

Commanding General
United States Army, Vietnam
ATTN: AVHGC-DST
APO 96375

Commander in Chief
United States Army, Pacific
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APO 96558

Assistant Chief of Staff for Force Development
Department of the Army (ACSFOR-DA)
Washington, D C. 20310

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1. Section 1, Significant Organizational or Unit Activities.

a. Command

The 70th Engineer Battalion (C)(A) continued under the command of LTC Robert K. O'Connell. During this quarter, the Battalion Staff experienced two changes. On 18 February 1969, Major Robert G. Ferrari arrived at the 70th Engineers from the recently deactivated 87th Engineer Battalion (Const) to become the S-3, replacing Major William J. Skinner who went to USARV. Lt Steven O. Bowe became S-4 on 1 May 1969, replacing Cpt David S. Skidmore, who departed the Battalion TDY prior to his DEROS. On 25 March 1969, 1LT Frank M. Hann assumed command of B Company from Cpt Paul Isbell, who returned to CONUS on emergency leave. Lt Hann remains in command of B Company at the end of this period. On 29 April, Cpt John J. Rice Jr. assumed command of A Company from Cpt Andrew J. Leavins who moved to D Company in preparation for assuming command of that unit. During this quarter, 8 officers departed and 5 officers joined the Battalion.

b. Personnel, Administration, Morale, Discipline

(1) The Battalion maintained an average assigned strength of 93.0 % of authorized EM and 100 % of authorized officers. The 131st Engineer Company (LE) averaged 96.0 % authorized EM and 100 % officers.

(a) The authorized and assigned strength of the Battalion as of the end of the quarter was as follows:

	<u>Authorized</u>	<u>Assigned</u>
Enlisted	773	630
Officer	39	42

(b) The authorized and assigned strength of the 131st Engineer Company (LE) as of the end of the quarter was as follows:

	<u>Authorized</u>	<u>Assigned</u>
Enlisted	180	168
Officer	6	6

(2) The shortages of personnel holding critical MOS's which existed last quarter have been partially filled this period. However, critical shortages still exist. These are as follows:

<u>Position</u>	<u>MOS</u>	<u>Grade</u>	<u>Auth</u>	<u>Assigned</u>	<u>90 Day Loss</u>
Sqd Ldr	12B40	E-6	40	12	2
Supply Sgt	76Y40	E-6	5	2	1
Medical Spec	91C20	E-6	1	0	N/A
Medical NCO	91B40	E-6	1	0	N/A
Unit Cook	94B20	E-6	5	1	0

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(a) The severe shortage of squad leaders (E-6) is only partially offset by young aggressive E-5's filling the positions. Many E-5's lack the necessary experience for accomplishment of independent squad size missions. This placed the added task of detailed jobsite technical supervision on platoon sergeants and junior company officers who should be supervising on a broader level. The company supply sergeant (76Y40) continues to be a critical shortage. Many problems at the company level could easily be eliminated with the arrival of the supply sergeants. The medical NCO and specialist shortage handicaps the operation of the Battalion Aid Station. The shortage of first cooks obviously limits mess operations. Each unit has an OJT program, but the lack of experience supplied by the E-6 hampers mess hall operations.

(3) The battalion has not experienced any major unit moves during the period. The two platoons of D Company located at Lac Thien, RVN returned to the battalion base camp upon completion of the project. The first platoon of the 509th Engineer Company (PB) was detached from this battalion and attached to the 864th Engineer battalion on 16 March 1969. At present the battalion is located as follows:

(a) Camp Jerome, Ban Me Thuot: HHC, C Company and D Company.

(b) Hot Rocks Quarry: B Company and 131st.

(c) Khanh Duong: A Company.

(d) The number of company days spent in tactical moves was less than one.

(4) Morale remains fairly high in the battalion. A Post Exchange branch opened at Camp Jerome on 18 April 1969, providing all personnel with both necessities and luxury items. All units have constructed SEA Huts for use as Day Rooms, providing the troops with a place to relax during off-duty time.

(a) An average of 18 Article 15's per month were administered for the entire battalion. There were 2 summary and 14 special court martials convened during the quarter. There were 46 requests for extension of foreign service over the period.

(b) The battalion chaplain conducts Protestant services weekly at the battalion base camp and Hot Rocks Quarry. In addition, he spends considerable time visiting the troops at Khanh Duong, the Quarry and any outlying project sites. Catholic services are conducted weekly by the Catholic chaplain from the MACV Detachment in Ban Me Thuot.

c. Intelligence and Counter-Intelligence

(1) During the quarter, the G-2 section performed its mission of collecting and disseminating intelligence, of being a repository for all secret documents and of coordinating civic action, MEDCAP and PSYOPS.

(a) Intelligence reports are obtained daily from paramo sector and the 23rd division, ARVN, in Ban Me Thuot. This information is disseminated at evening staff meetings, at the weekly commander's conference and as the situation demands to the affected unit.

(b) During the period, the 70th's Civic Action Team, coordinating with the

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local MACV Civic Action Team and the Area Community Relations Committee, assisted local villages, with emphasis placed on self-help. Twenty-one (21) new wells have been dug and a small timber tressel bridge erected on an approach to an outlying village. Battalion equipment was used to grade over two (2) miles of roads in various villages throughout the area. Educational institutions in the Ban Me Thuot area received special attention. Repair work began on a roof and wall of a damaged school, and a program was initiated whereby 3 volunteers go, on a weekly basis, to a nearby school to teach English to over 90 students. Near the end of the quarter, the battalion became involved in the restoration of an Eiffel bridge south of Lac Thien. Materials were purchased on the local economy with VN\$ 50,000 supplied by the 18th Engineer Brigade Impress Fund. Labor will be supplied by local nationals, with technical assistance and supervision by MACV and the 70th EBC.

(c) during this reporting period, 1500 lbs of scrap lumber were donated to fire victims in Ban Me Thuot and a total of 400 man days were expended on Civic Action projects. In addition, the battalion MEDCAP and PSYOP Teams, in conjunction with the local detachment of the 8th PSYOPS Battalion, visited 22 villages treated 1000 Montagnards and distributed 1000 pounds of soap, candy and clothes. During all visits to villages, the VIP and chieu Hoi program was stressed.

d. Logistics

(1) during the period, the battalion operated two water points. One water point operates at Hot Rocks Quarry and supplies potable water for B company, 131st Engineer Company (LE), local MACV Teams and the ARVN 8th Cav. Regiment. A total of 801,000 gallons of potable water were produced during the quarter. The second water point is operated at Khanh Duong, RVN, and supplies A company 70th Engineers, 610th Engineer company (CSO, D company 864th Engineers and the local MACV team. This water point produced 890,000 gallons of potable water.

(2) The battalion experienced several critical shortages of equipment. These shortages are;

<u>Nomenclature</u>	<u>Auth</u>	<u>on/Hand</u>	<u>Short</u>
Distributor, Bituminous Tk Mtd	1	0	1
Generator 3 KW AC	13	3	10
Generator 3 KW DC	2	0	2
Generator 5 KW AC	2	0	2
Grader, Road, Mtd	4	1	3
Saw, Chain	12	3	9
Truck, 5 ton Dump	55	38	17
Truck, Fork Lift	1	0	1
Tank and Pump Unit Liq. Disp. Tk Mtd	6	0	6

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(3) Tonnage and type of aircraft used during this quarter for supply and transportation of equipment are as follows:

<u>Aircraft</u>	<u>Tonnage</u>
UH-1D Huey	3.0
CH-47 Chinook	10.5
CH-54 Flying Crane	12.0
C-7A Caribou	3.0
C-130 Hercules	12.0

c. Plans, Operations and Training

(1) During the period 1 February 1969 to 30 April 1969 the 70th Engineer Battalion (C)(A) performed its mission which was to:

(a) command assigned and attached units

(b) plan and coordinate operations of units assigned or attached to the battalion.

(c) provide non-divisional engineer support required for tactical operations in the battalion area of responsibility.

(d) actively maintain a perimeter defense at all base camp and job sites occupied by the battalion or subordinate units, and to defend assigned perimeters against enemy attack.

(2) Operational Support

A Company

(a) Due to its isolated location, A Company was actively involved in defensive measures. Daily minesweeps were conducted on the access road from the base camp to QL21. To date, no mines have been found and there have been no mining incidents. Continual effort was devoted to the base camp perimeter. Three rows of triple standard concertina and a double apron fence were erected on A Company's perimeter. An outpost bunker (8x12) was built on a nearby hill; wire was erected around it and tied into the main perimeter.

(b) Active patrolling was conducted through the period. Periodically, seven man reconnaissance patrols were sent out to provide information about the surrounding area and to search for any signs of enemy activity. In addition, two all-day search and destroy operations were conducted jointly with the MACV Detachment in Khanh Duong. Several joint night ambushes were also conducted, all with negative results.

B Company

In late February 1969, the 5th Battalion of the 22nd Artillery Regiment moved

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from Pleiku to Ban Me Thuot. On 3 March 1969, B Company was tasked to provide minimum essential requirements (MER) construction support. Construction included a mess hall slab; 2 each 4-head and one each 2-head latrines; one each 2 head, one each 4 head and one each 8 head shower; and two water towers.

C Company

(a) On 30 January 1969, C Company was assigned the mission of constructing a 39x74 foot underground emergency medical facility complete with surgical and X-ray rooms, laboratory and patient classification area and electrical and plumbing systems. The design called for a reinforced concrete floor; 48 timber columns; 11 each 40 ft long-12 inch wide steel flange caps; 8x12 inch stringers with 3 inch roofing. The walls were 3 inch material, and the entire structure was waterproofed with T-17 membrane. Excavation began on 30 January and the official opening was held on 24 March. Additional work was done on landscaping and modification of the entrance to weatherproof it. A total of 11,526 manhours and 1776 equipment hours were expended on the project.

(b) A project to build PAC revetments which was underway at the end of last period was completed 12 February. Work this period consisted of erecting 420 square feet of M8.1 revetments, filling revetments with 15 cubic yards of fill and penoprining the top of the revetments to stabilize exposed fill. A total of 310 manhours and 94 equipment hours were utilized this period.

(c) A taxiway for C-2 aircraft which was started last quarter was completed this period on 22 March 1969. The taxiway was surfaced with a single surface treatment utilizing 8000 gallons of RC-3, 200 cubic yards of 3/4"(-) rock and 60 cubic yards of sand.

(d) On 3 March 1969, C Company began a project to erect revetments and protective berms around an ARVN government-owned Radio tower and transmitting building in Ban Me Thuot. 530 cubic yards of fill were hauled to place berms around the tower base and anchor cable tiedowns before the project was transferred to D Company on 9 March 1969.

(e) Construction by the Vietnamese government cause the existing taxiway at the Ban Me Thuot-East airfield to be closed to traffic. To allow aircraft access to the parking apron, C Company, in conjunction with the 131st Engineer Company (LE), expanded an existing dirt road into a 80x600 foot access ramp. The taxiway was shaped, compacted and surfaced with RC-3. The widening of the existing dirt road necessitated the relocation of two existing JP-4 bladder berms. The relocation was accomplished using dozers and front loaders, and the taxiway was opened to traffic on 9 February 1969, 6 days after the start of construction. Work is currently underway to apply a single surface treatment to the taxiway for a more durable surface.

(f) The wearing surface of four (4) gun pads at an artillery fire base near Ban Me Thuot required replacing due to wear from the tracked vehicles. 7,566 board feet of 2x12 lumber were used to replace the worn surfaces. This effort required a total of 321 manhours.

(g) On 22-23 April, C Company utilized a grader, a 13 wheeled roller and an asphalt distributor to repair a 1600 ft Interite airstrip at a MACV

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subsector compound at Buon Ho, RVN. The strip was badly rutted and potholed, and was about to be closed to the light aircraft that utilize the strip daily. The strip was graded, compacted and shot with asphalt.

(h) A counter-mortar radar unit was programmed to arrive in Ban Me Thuot in February; C Company was given the mission to construct a 12x48 foot bunker to house personnel and equipment prior to the unit's arrival, ~~arrived~~ on 4 February, and the structure was completed on 13 February 1969.

(i) A sewage lagoon was constructed for the CCS special forces in Ban Me Thuot on 5 - 8 March 1969. The project required preparation of a 200x200 foot lagoon and a 200x100 foot lagoon, each formed by a D7-E pushing up fill. The berms and bottom were compacted using sheepsfoot rollers. An entrenching machine was used to bury the required pipe line. Effort required was 350 manhours and 110 equipment hours.

(j) Work is currently underway to construct a two-lane, all weather road from the Ban Me Thuot LSA to QL21. Work began on 12 April, and consists, to date, of ditching plus the installation of nine culverts with headwalls.

(k) The project to rehabilitate the Ban Me Thuot ASP, begun last quarter, continued through this reporting period. The scope of the project was increased to include a 90x90 foot classification pad and the upgrading of an existing 1000 meter unsurfaced road to a two-lane, all-weather road. The scope included ditching, and the application of an asphalt macadam surface. Drainage was improved by extensive ditching and the installation of six multi-pipe culverts consisting of two 18 inch culverts each. The road has been completed; all that remains to the entire project is a slight amount of finish work on the drainage system within the ASP, and on the bumper system within the ammunition cells.

(l) The problems of dust control remained this quarter, necessitating a continuation of the control program initiated in November 1968, at the end of the nonsoon season. The area covered under this program consists of the road network, hookout and helipads, and parking aprons at the Ban Me Thuot East airfield, plus the heliport at CCS Special Forces. The unit areas of 5/22 Artillery and 70th Engineer Battalion are also included. During the quarter, 226,200 gallons of penneprine were utilized.

(m) Twice during the quarter, C Company responded to request from the 5/22 Artillery to help prepare fire bases. On 8 April 1969, a D7-E dozer, with lowboy and operators, was moved with artillery elements to a position 14 KM west of Ban Me Thuot to prepare emplacements for two guns and a FDC. Fewer than 20 hours were required to prepare defensive positions and have the fire base fully protected.

(n) On 27 April 1969, 10 men and one officer were alerted for a mission to clear a fire base. The men and equipment were airlifted to the site by helicopter after the site was secured by a 150 man CIDG company. An area 300 meters in diameter, containing approximately 100 trees (2-8 feet in diameter) and heavy bamboo cover, was cleared. The mission was completed on 29 April, and the personnel were extracted by helicopter.

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D company

(a) Early in March, D company assumed the mission, started by C company, of constructing revetments for protection of the transmitter and generator buildings of the Ban Me Thuot radio station. The design called for standard aircraft revetments; 13 were 12 foot high, and 13 were extended to a height of 20 feet. The extension was accomplished by framing M8A1 matting to the top of the standard revetments. The project was completed on 1 April 1969.

(b) The 450 foot extension of an M-8 airfield at Lao Thien, RVN was completed this quarter. The east end of the strip was cleared of brush, ditched and shaped. A transition from the M-8 to the unsurfaced portion of the runway was accomplished with a 60x12 foot reinforced concrete patch. The project was completed on 7 April 1969.

(3) Base camp construction

A Company

A Company completed construction of their base camp this quarter. Construction included: 6 each 20x40 foot and 6 each 20x30 foot living/fighting bunkers; 6 each 16x32 foot SEA huts used as orderly room, day room, supply room and mess hall; a 20x50 foot maintenance shop; and a 12x24 foot company TOC. Continuous effort was devoted, when available, to increasing the effectiveness of the units defensive perimeter.

B Company

(a) B Company was given the mission of constructing 10 SEA huts for the Ban Me Thuot LSA on 4 March 1969. As of 30 April, all 10 concrete pads were poured, 8 of the buildings were completed, and the last two SEA huts were near completion.

(b) In conjunction with the Ban Me Thuot LSA project, B Company provided continuous technical assistance and supervision to the self-help effort of the quarters battery, service battery and B battery, 5/22 Artillery, located at PHT East Field. The total project includes 49 SEA huts for the three batteries. At the close of the period, 10 SEA huts were completed.

(c) B Company had the mission of constructing base camp facilities for both themselves and the 131st Engineer Company (LE) at Hot Rocks Quarry. During the quarter, the following were constructed for B Company: 6 each 16x32 foot SEA huts for orderly room, day room, supply room and mess hall and a 20x50 foot maintenance shop. For the 131st, the following were completed: A 20x50 foot maintenance shop and 6 SEA huts for orderly room, supply room and mess hall.

(d) In preparation for a road opening to Duc Lap, to construct facilities for a MACV subsector camp, B Company prefabricated a 20x28 foot modified SEA hut, a water tower and a 8x20 foot latrine. A road opening is expected early next quarter for movement of a squad and materials to Duc Lap.

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C company

(a) On 6 February 1969, C company began constructing a 20x50 foot SEA Hut structure to serve as a post Exchange at Camp Jerome. Construction was completed on 20 February 1969. Completion of the structure and acceptance by Exchange officials terminated an extensive local effort to open a P.X. for all members of the battalion.

(b) The period 8 to 26 April 1969 saw the construction of an officers club. The building was a typical SEA Hut, and serves all officers of the battalion.

(c) During the quarter, C company completed construction of company administrative facilities. Completed were 6 SEA Huts (16x32 foot) for orderly room, day room, supply room and mess hall, as well as 2 living/fighting bunkers (12x24 feet). At the end of the period, 4 additional bunkers and a 20x50 maintenance shop were under construction.

D Company

(a) D Company had the mission of base construction for HHC as well as themselves. For HHC, the following were completed: 4 SEA Huts (16x32 feet) for mess hall, and a 20x50 foot maintenance shop. At the end of the period the HHC orderly room, supply room and day room were under construction as were 6 living/fighting bunkers for HHC troops. Also under construction were buildings for S-4, S-2, S-3, S-1 and Personnel sections and for one (1) battalion aid station.

(b) In the D company area, the following had been completed: 6 SEA Huts (16x32 feet) for orderly room, day room, supply room and mess hall, and a 20x50 foot maintenance shop.

(c) The mission to construct 3 SEA Huts for an EM/NCO club was assigned to D company. Since the club was organized for all personnel of the battalion, each company provided troops to work with D company. The club was completed on 22 April 1969.

(d) With the large volumes of SEA hut and bunker construction under way, D company was tasked to establish a prefab yard using a power saw which was provided by the 589th Engineer Battalion (Const). All wall panels, end panels, roof trusses, and doors for SEA Huts were prefabricated. All siding and roofing for bunkers was also pre-cut. This proved to be an efficient and time-saving operation which greatly aided the construction projects.

(4) LOC Maintenance and Upgrading

A Company

(a) During the night of 23 - 24 February 1969, the center pier of a two-span bridge was blown and both spans dropped into the river at bridge QL21-27. To reopen this major LOC, A Company placed a 48" culvert between the dropped spans, built headwalls utilizing 8x12 inch and 3x12 inch material and back-filled using blast rock and selected fill. The company worked all day and most of the night to reopen the road on 25 February.

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(b) Once the road was opened, a more permanent bypass at QL21-27 was installed to permit rerouting of traffic for work on a new bridge. Two 36 inch culverts with headwalls were installed on the bypass. Using heavy equipment and demolitions, the destroyed bridge was removed and the site cleaned out. The old abutments were left in place and will be utilized in construction of a new bridge.

(c) A destroyed bridge at QL21-28.4 was bypassed using two 48 inch culverts with headwalls. The old bridge was then removed, and the existing abutments were prepared for a new bridge. Forms were erected on the existing abutments, and concrete was poured to increase the height of the end dams. The new portions were tied in with rebar to the existing concrete. As of the end of the quarter this site is ready for the superstructure.

(d) The road at the twin bridges, QL21-29 and QL21-30 was realigned and the old road is being used as a bypass. QL21-29 was prepared this period for three 72 inch culverts, while the culverts were being assembled and the concrete headwall forms were being prefabricated. At the end of this quarter, the site had been prepared, and all prefabrication was completed. Excavation for one abutment was begun at QL21-30.

(e) Throughout the entire quarter, a crew was devoted to pot-hole work on QL21. Sections of the road that could be overlaid with an asphalt surface relieved the primary emphasis for pothole work. Hot mix from the asphalt plant at Khanh Duong is being utilized for this purpose.

B Company

(a) During the month of February, two bypasses were constructed at bridges QL21-36 and QL21-37 using two multi-pipe culverts of two 48 inch culverts with reinforced concrete headwalls. These sites required extensive site preparation and rerouting of the streams. Both bypasses, 56 foot wide, were built to permit removal of the existing damaged bridges prior to new construction.

(b) Several bridges previously destroyed had to be removed using heavy equipment and demolitions prior to initiation of new construction. Bridges worked on included QL21-31, 32, 33, 34, 36 and 37. Bridges 32 and 33 were prepared for piles at the end of the period. All piles for one abutment at bridge 33 had been driven, and those for the second abutment were being driven.

(c) The existing bypass at QL21-34, a triple-single bailey bridge, was failing due to scouring of the abutments. The existing abutment was also too close to the bridge site to permit future construction. Approaches for a new bypass were constructed downstream of the existing site in preparation for erection of a new bailey bridge.

(d) B Company continued pothole work. They are now using hot mix from the asphalt plant at Khanh Duong.

D Company

(a) Two bridge sites were worked on during the quarter. Bypasses were constructed at QL21-38 and 38A in preparation for removal of the existing

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damaged bridges. The damaged abutment at bridge 38 was removed down to the footer, which was saved for reuse in the new bridge. At bridge 38A, a new site has been prepared to receive 3 - 72 inch culverts.

(b) During the period, a pothole repair program was carried out using a cold mix of RC-3, sand and 3/4" (-) rock prepared in the company area and transported to the site in 5 ton dump trucks. The potholes were readied with a jack hammer and 600 CFM air compressor and the cold mix placed and tamped. This proved to be a very effective method of patching.

131st engineer company (LE)

(c) A quarry and crusher complex is operated at the Hot Rocks location. During the report period, the crusher production was as follows:

<u>Rock Size</u>	<u>Cubic Yards Produced</u>
blast rock	21,000
3"(-)	10,600
1 1/2"(-)	600
1"(-)	3100
3/4"(-)	3300
3/4"	160
1/2"(-)	250

On 23 April production of 3/4"(-) was discontinued and production of 3/4" and 1/2"(-) began. The 3/4" was required for L R O concrete projects, and the 1/2"(-) was required by the 610th Engineer Company (CS) in their production of hot mix asphalt. A new quarry site on higher ground is being developed for use during the monsoons.

(b) considerable effort was devoted to upgrading QL21. This included cutting and filling shoulders, scarifying, filling and compacting sections of the road which were in need of repair. In order to protect scarified sections from the coming monsoon, a penetration macadam is being applied. The macadam consists of 4" of compacted 3"(-) which is shot with hot RC-3 (2.5 gallon/yard²) choked with 3/4" (-), rolled and reshot with hot RC-3 (.5 gallon/yard²). At the end of the quarter, 3.9 miles of roadway and 2.9 miles of shoulders have been completed. During the period, an additional 9.4 miles of shoulders and 3.7 miles of scarified roadway were lifted and compacted.

(c) on 21 April, paving operations began with asphalt furnished by the 610th Engineer Company (CS). Paving is proceeding west from bridge QL21-24. The operation began with blade laying of a 1 1/2" leveling course over scarified and compacted areas of the road. A paver was then made available and the lift increased to 2 1/2 inch when a paver is not available, the blade lay technique will be used to apply a leveling course in scarified areas. This will

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provide a water-proof surface until the finish course can be applied with a paver. Existing pavement is presently being overlayed with one 2 1/2" lift. Base course from the 610th Engineer Company (CB) is being applied in a 4" lift in scarified areas prior to paving. At the end of the report period, 4,760 meters single lane had been paved utilizing 2266 tons of asphalt.

(5) Civic Action

C Company

C Company participated in some civic action work during the period. On three Sundays, volunteers assisted in pouring a concrete pad for a relief agency's warehouse in Ban Me Thuot. Personnel also worked on the repairs to a damaged school house. Another Sunday, a dozer and operator worked for a local Montagnard village improving the village's drainage.

D Company

The village of Giang-Son Khu had an access bridge that could no longer support vehicular traffic. D Company constructed a bypass using salvaged culvert and selected backfill. Equipment worked at a local ARVN compound for several Sundays clearing area for a dependant housing project. Area for fields of fire was also cleared, and a defensive berm pushed up.

131st Engineer Company (LE)

(a) A major MICOV program at the village of Chu Kuk recieved help from the 131st. The first phase of the operation consisted of dismantling 5 hamlets and preparing them for relocation into a joint community. Engineer equipment permitted this phase of the operation to proceed several days ahead of schedule. The second phase consists of the actual relocation of the people and their homes. As of the end of the quarter, lowbeds and stake and platform trucks were being furnished to move the extremely long timbers common to Montagnard long houses.

(b) The upgrading of a insecure hamlet, Buon Krong Buk, to a secure status was accomplished by volunteers of the company. One Sunday afternoon, a massive effort cleared 25 acres for village expansion and a 50 meter strip for fields of fire around the hamlet. This increase in security permits local officials to live in the village and to assist in the economic and political upgrading of the inhabitants.

(c) The entrenching machine proved extremely useful in the village of Buon Jet. In two days, 800 feet of irrigation ditches and 2500 feet of defensive trenches were dug for the village.

(d) In the hamlet of Buon Ba Yang A and B, equipment and volunteers improved the defenses of the area significantly. Over the period, seven miles of defensive trenches were dug, extensive fields of fire cleared, and bunkers built using native materials.

(f) Training

(1) During the past quarter this battalion devoted two hours each Sunday

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to mandatory training. Also, on the same day, two hours were devoted exclusively to maintenance of equipment. Time is allowed on a daily basis each morning and evening for motor stables.

(2) Last quarter, the battalion initiated a Replacement Training program. This program was actively implemented this reporting period, so that all newly arrived personnel received two full days of work in both classroom and field.

2. Section 2, Commander's Observations, Evaluations and Recommendations/Lessons Learned:

a. Personnel: None

b. Operations:

(1) Expedient bypass over a blown bridge.

(a) Observation: When enemy activity results in the destruction of a bridge on a major LOC, the construction of an adjacent bypass would result in the road not being opened to traffic for several days.

(b) Evaluation: Since the time required to construct new approaches and prepare the stream bed for a new bypass was prohibitive, the destroyed bridge site was used. Pressure charges were detonated on the dropped spans to insure complete settling and a large culvert was placed in the "v" formed by the two spans. Headwalls were constructed and the culvert backfilled to the old road grade line. Much time was saved by eliminating preparation of approaches and stream bed.

(c) Recommendation: A LOC may be reopened to traffic in a minimum amount of time by using the damaged bridge site as a bypass site. Once, the LOC is opened to traffic time may be spent in preparing a deliberate bypass to allow rerouting of traffic so that the bridge may be replaced.

(2) Expedient Washing of concrete Aggregate.

(a) Observation: Aggregate available for concrete slabs contained large quantities of organic material and clay fines.

(b) Evaluation: There was no equipment available to wash the contaminated aggregate. Since only a small amount was required for the particular job, it was impractical to fabricate a large wash plant. A 1/4 ton trailer was loaded with rock and filled with water. Raising and lowering the tongue agitated the water sufficiently to remove the particles of organic matter and clay. The water was then drained through the drain plug and the cycle can be repeated as often as required.

(c) Recommendation: For small quantities of aggregate, a 1/4 ton trailer should be used as an expedient aggregate washing apparatus.

(3) Setting of posts in concrete without anchor bolts.

(a) Observation: While preparing to pour the slab for a maintenance shop it was found that anchorbolts were not available for placing into the concrete for framing the columns.

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(b) Evaluation: A piece of scrap lumber having the same dimensions as the column was oiled and placed into the fresh concrete to a depth of 3 inches at the location of the column. The piece of lumber was removed just prior to complete hardening of the concrete leaving a key in which the column was set during vertical construction.

(c) Recommendation: A shortage of anchor bolts need not be an obstacle to light construction. A key may be using scrap material the same dimension as the proposed column.

(4) Blade laying asphalt with a grader

(a) Observation: When laying asphalt with the blade of a grader it was found that the hot mix flowed around the ends of the blade creating additional work.

(b) Evaluation: A set of wings was fabricated and attached perpendicular to the blade in place of the end bits. The wings extended 2 inches below the cutting edge of the blade and 1 1/2 feet to the front. Skids were welded to the bottom of the wings. Hot mix was spread in an 8-10 inch lift from 5 ton dump trucks. The grader blade was positioned perpendicular to the direction of travel with the skid resting on the base course. As the grader moved forward over the 8-10 inch lift of hot-mix, the grader cutting edge, being 2 inches above the skids, formed a two inch lift of hot-mix.

(c) Recommendation: Whenever paving machines are not available and asphalt must be laid with a grader, wings with skids should be fabricated and used to control the depth of the lift as well as to eliminate spillage around the ends of the grader blade. (See Incl 2)

(5) Use of a front loader when pouring many small pads

(a) Observation: When many concrete slabs had to be poured for the Headquarters Company and Battalion CP areas, it was time consuming to move the 16S mixer and aggregate from pad to pad.

(b) Evaluation: A central area was selected for the 16S and aggregate to be permanently located. A 2 1/2 cu yd front loader was used to transport the fresh concrete from mixer to slab. The concrete was placed by opening the clam on the scoop.

(c) Recommendation: Whenever numerous pads must be poured with a 16S mixer in the same general area, a centrally located batching site should be selected and the fresh concrete carried from the mixer to the pad in a front loader.

(6) Shortage of long lengths of one inch material for SEA Hut siding

(a) Observation: It happened that the only one inch thick lumber available for siding of SEA Huts was 1x6 inch, in 6 foot lengths. Since the studs on the prefabricated wall panels were 4 foot apart, this 6 foot length of siding could not be used without a 30 % waste.

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(b) Evaluation: It was found that by placing the 6 foot lengths vertically with a girt 6 foot above the floor, complete use could be made of the short lengths. When 10 foot lengths became available, they were cut in half to produce 5 foot lengths; this is applicable to all increments of 5 and 6 feet. The girt was then placed at 5 feet above the floor for nailing. It was also found that by placing the vertical 1x6 siding on 9 inch centers a 4 inch gap resulted and a very decorative pattern was developed. This pattern also proved to be very watertight.

(c) Recommendations: When the one inch material to be used as siding is available only in multiples of 5 or 6 feet, the long pieces should be cut into 5 or 6 foot lengths and used vertically.

(7) Damage to Asphalt Distributor Spreader Bars

(a) Observation: It was found that often when an asphalt distributor was driven in excess of five miles to a work site, damage accrued to the spray bars.

(b) Evaluation: The solution was to haul the distributor from base camp to work site on a lowbed. The shortage of repair parts and the critical need for distributors justified the use of a lowbed.

(c) Recommendation: Whenever an asphalt distributor must be driven more than 5 miles to a work site, it should be transported on a lowbed to prevent damage to the spray bars.

e. Training: None

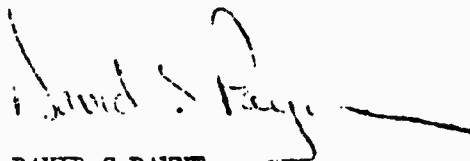
d. Intelligence: None

c. Logistics: None

f. Organization: None

g. Other: None

W. THE COMMANDER:



DAVID S PAYNE
CPT, CE
Adjutant

2 Incl

1. Organ structure
2. Dwg grader blade

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EGA-CO (30 April 69) 1st Ind

SUBJECT: Operational Report of 70th Engineer Battalion (Cbt) for Period
Ending 30 April 1969, RCS CSFOR-65 (R1)

DA, Headquarters, 35th Engineer Group (Const), APO 96312, 26 May 1969

TO: Commanding General, 18th Engineer Brigade, APO 96377

1. This headquarters has reviewed the Operational Report-Lessons Learned for the 70th Engineer Battalion (Cbt) for the quarterly period ending 30 April 1969. The report is an excellent summary of the battalion's activities for the reporting period.

2. This headquarters concurs with the remarks of the Battalion Commander with the following additional comments:

a. In reference to paragraph 1.b.(2), the lack of qualified E-6 squad leaders (MOS 12B40) places a heavy burden on platoon sergeants and platoon leaders to provide adequate supervision, control, and training to the men. The use of E-5s partially offsets the shortage; however, when on isolated project sites, the E-5s are unable to continuously achieve high quality and efficient work due to lack of experience and troop leading capability. It is recommended appropriate commands attempt to reduce this problem by programming additional E-6 squad leaders (MOS 12B40) into the command.

b. In reference to paragraph 2.b.(4), and inclosure 2, the use of blade laying asphalt is often used in Vietnam to establish leveling courses in LOC construction. The addition of the wings on the grader blade has given results with hot mix asphalt that are nearly equivalent to machine paving. With experienced operators good alignment, smooth and straight pavement edges, and uniform thickness can be achieved. When paving machines are not available, adequate paving results with the blade laid method can be achieved.


WILLIAM L. BARNES
Colonel, CE
Commanding

AVBC-DC (30 April 69) 2nd Ind

SUBJECT: Operational Report of the 70th Engineer Battalion (Combat) for the period ending 30 April 1969, RCS CSFOL-65 (11)

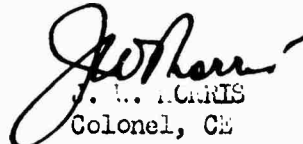
DA, Headquarters, 18th Engineer Brigade, APO 96377 13 JUN 1969

TO: Commanding General, U.S. Army Vietnam, ATTN: AVBCO-DET, APO 96375

1. This headquarters has reviewed the Operational Report - Lessons Learned for the 70th Engineer Battalion (Combat) as endorsed by the 39th Engineer Group (Construction). The report is considered to be an excellent account of the Battalion's activities for the reporting period.

2. This headquarters concurs with the observations and recommendations of the Battalion and Group Commanders, with the following comments added:

Reference: Section I, Paragraph b(2). All MOSC's have been reported to Headquarters, USARV, on the Personnel Inventory Reports and appropriate requisitions have been submitted. Based on previous experience, all shortages except those in MOSC's 12B and 76Y should soon be eliminated. MOSC's 12B and 76Y are Army-wide shortages, and no relief is expected in the near future.


J. L. MORRIS
Colonel, CE
Commanding

CC: CO, 39th Engr Gp
CO, 70th Engr Bn

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AVHGC-DST (30 Apr 69) 3d Ind


SUBJECT: Operational Report of 70th Engineer Battalion (C)(A) for period ending 30 April 1969, RCS CSFOR-65 (R1)

HEADQUARTERS, UNITED STATES ARMY, VIETNAM, APO San Francisco 96375 9 JUL 1969

TO: Commander in Chief, United States Army, Pacific, ATTN: GPOP-DT,
APO 96558

1. This headquarters has reviewed the Operational Report-Lessons Learned for the quarterly period ending 30 April 1969 from Headquarters, 70th Engineer Battalion.
2. Reference item concerning "The severe shortage of squad leaders (E-6)," (MOS 12B40), section I, page 2, paragraph b(2) and paragraph 2a, 1st Indorsement; concur. Records, this headquarters reveal the 18th Engineer Brigade is currently at 42.6% of its authorized strength in MOS 12B40 compared to a USARV average of 41.1%. Action on this recommendation will be required by HQ, DA.

FOR THE COMMANDER:


W. C. ARNTZ
CPT, AGC
Assistant Adjutant General

Cy furn:
70th Engr Bn
18th Engr Bde

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GPOP-DT (30 Apr 69) 4th Ind
SUBJECT: Operational Report of HQ, 70th Engineer Battalion,
(Cbt) (Army) for Period Ending 30 April 1969, RCS
CSFOR-65 (R1)

HQ, US Army, Pacific, APO San Francisco 96558 31 JUL 69

TO: Assistant Chief of Staff for Force Development,
Department of the Army, Washington, D. C. 20310

This headquarters has evaluated subject report and forward-
ing indorsements and concurs in the report as indorsed.

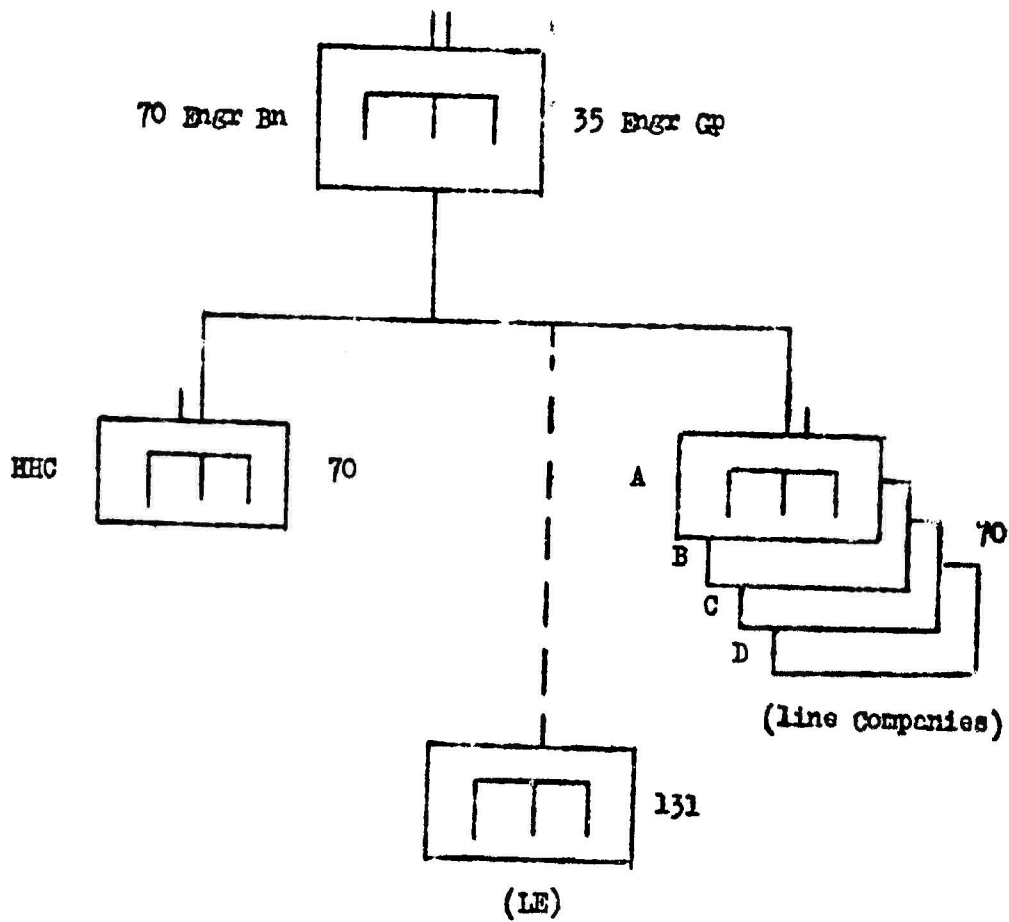
FOR THE COMMANDER IN CHIEF:



D. A. TUCKER
CPT. AGC
ASST AG

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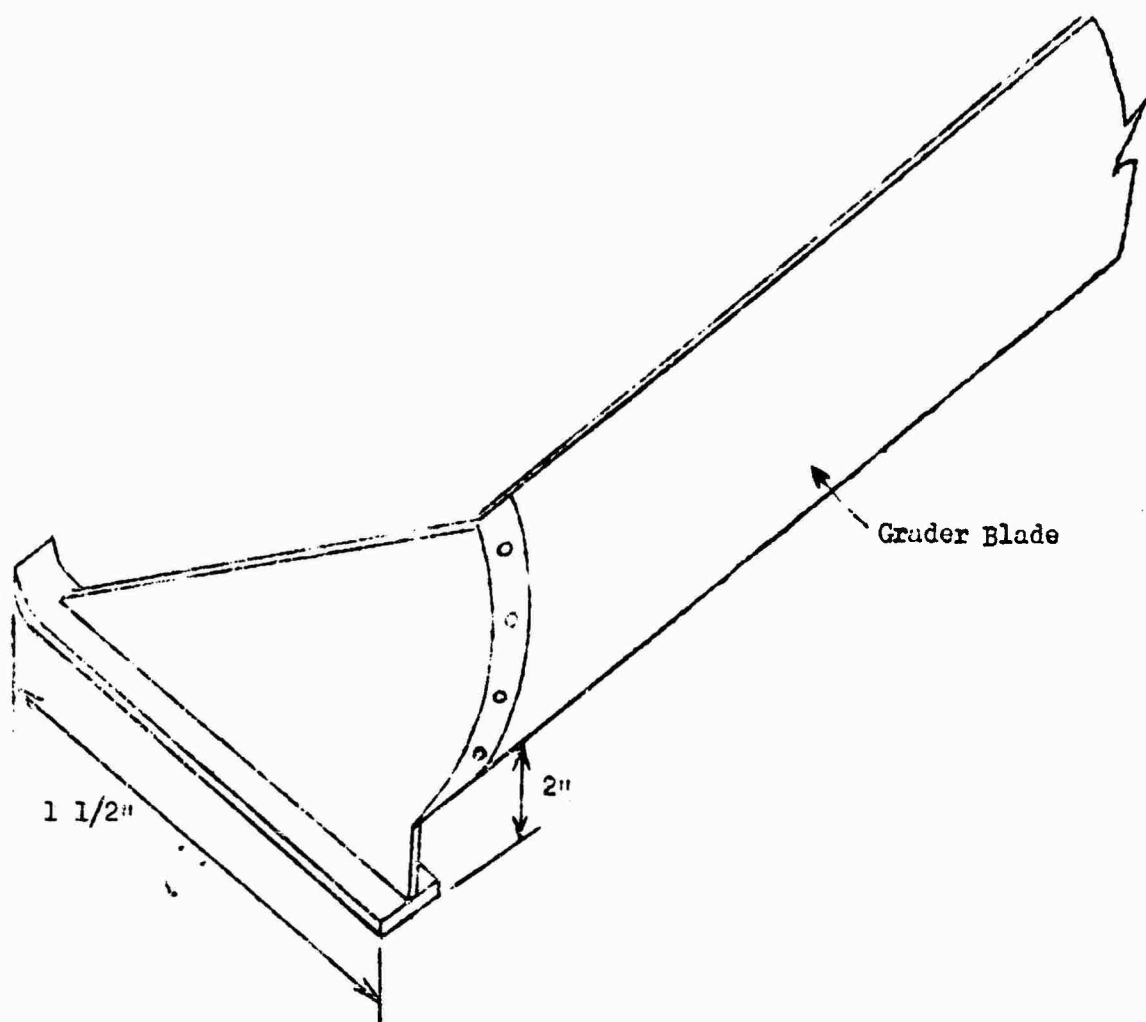


Incl 1

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INCL 2

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Security Classification

DOCUMENT CONTROL DATA - R & D		
(Security classification of title, body of abstract and indexing annotation must be entered when the overall report is classified)		
1. ORIGINATING ACTIVITY (Corporate author)		2a. REPORT SECURITY CLASSIFICATION
HQ, OACSFOR, DA, Washington, D. C. 20310		FOR OFFICIAL USE ONLY
		2b. GROUP
3. REPORT TITLE		
Operational Report - Lessons Learned, Hq, 70th Engineer Battalion		
4. DESCRIPTIVE NOTES (Type of report and inclusive dates)		
Experiences of unit engaged in counterinsurgency operations, 1 Feb 69 to 30 Apr 69.		
5. AUTHOR(S) (First name, middle initial, last name)		
CO, 70th Engineer Battalion		
6. REPORT DATE	7a. TOTAL NO. OF PAGES	7b. NO. OF REFS
30 April 1969	24	
8a. CONTRACT OR GRANT NO.	9a. ORIGINATOR'S REPORT NUMBER(S)	
b. PROJECT NO.	692175	
c. N/A	9b. OTHER REPORT NO(S) (Any other numbers that may be assigned this report)	
d.		
10. DISTRIBUTION STATEMENT		
11. SUPPLEMENTARY NOTES	12. SPONSORING MILITARY ACTIVITY	
N/A	OACSFOR, DA, Washington, D.C 20310	
13. ABSTRACT		